BEFORE THE

Federal Communications Commission

WASHINGTON, D.C.

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Federal Communications Commission
Office of the Secretary

In the Matter of	)	
	)	
Amendment of Parts 2, 22 and 25 of the Commission's Rules for an Allocation of Frequencies for a New Nationwide Hybrid Space/Ground Cellular Network for Personal Mobile Communications	)	RM-7927

OPPOSITION TO PETITION FOR RULEMAKING

AMSC Subsidiary Corporation ("AMSC"), by its attorneys, hereby submits this opposition to the above-referenced petition for rulemaking of Celsat, Inc. ("Celsat").[1/] In particular, AMSC opposes Celsat's proposal to allocate spectrum in the 1610-1626.5 MHz band to what Celsat calls a Hybrid Personal Communications Network ("HPCN"). As AMSC has demonstrated in an ongoing proceeding for which the cut-off for applications was nearly a year ago, this spectrum is better allocated for Mobile Satellite Service ("MSS") and assigned to AMSC to supplement adjacent MSS frequencies.

Background

On February 6, 1992, Celsat filed a petition for rulemaking requesting that the Commission allocate 32 MHz (1610-1625.5 MHz/2483.5-2500 MHz) of the spectrum presently allocated

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1/ These comments are filed pursuant to the Commission's Public Notice, Mimeo No. 22154 (March 9, 1992).

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domestically to the Radiodetermination Satellite Service ("RDSS") for its proposed new service. Alternatively, Celsat requests the allocation of 37 MHz of S-band spectrum (2110-2129 MHz/2410-2428 MHz) for this service.[2/] Celsat also states that its system would require satellite-hub links of between 160 and 195 MHz of spectrum in the 21 GHz and 30 GHz bands.[3/] The focus of AMSC's opposition is on Celsat's proposal to use the 1610-1625.5 MHz band.

Celsat describes HPCN as an integrated space/ground cellular network system that will provide mobile voice and data communications, position location service and other information services nationwide. Celsat asks that 32 MHz of RDSS band spectrum or 37 MHz of S-band spectrum be allocated to HPCN on an exclusive primary basis for a single HPCN system.[4/] Celsat also filed a request for pioneer's preference with respect to HPCN, the grant of which would make Celsat the exclusive licensee of

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2/ While Celsat states that these S-band frequencies are part of the 80 MHz the Commission recommended for allocation to MSS at the 1992 WARC, the Conference in fact allocated only a small portion of these frequencies to MSS, specifically a Region 2 secondary MSS space-to-Earth allocation in the 2120-2160 MHz band.

3/ Celsat Petition at 32.

4/ Celsat Petition at 32. Celsat appears to be requesting the relocation of other users of the bands, such as radio astronomy and radionavigation systems in the RDSS uplink band. Celsat claims that there is some ability to share the band with existing users (see Celsat Petition, Appendix D); however, it is apparent from the petition that only the exclusive use of the requested bands will enable Celsat to offer the system capacity it claims.

the HPCN system.[5/] Celsat has not filed an application for authority to operate a system.

The allocation of spectrum for mobile satellite voice and data services has been a topic of considerable debate in recent months. As the licensee of the U.S. MSS system, AMSC has cited the growing shortage internationally of MSS spectrum, and has advocated that additional spectrum be made available so that the U.S. MSS system can develop fully. One of the most important issues at the recently concluded 1992 World Administrative Radio Conference ("WARC") was the allocation of additional global MSS spectrum.[6/]

The frequency bands presently allocated domestically to RDSS (1610-1626.5 MHz and 2483.5-2500 MHz) have been particular targets of entities wishing to provide Mobile Satellite Service. A number of entities already have submitted proposals for use of the RDSS bands to provide Mobile Satellite Service. Ellipsat Corporation and Motorola Satellite Communications, Inc. ("MSCI") submitted early applications, on the basis of which the Commission issued a cut-off notice requesting mutually exclusive applications by June 3, 1991.[7/] In response, AMSC submitted a

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5/ Celsat Request for Pioneer's Preference, PP-28 (February 10, 1992). AMSC is opposing Celsat's pioneer's preference request in a pleading being filed today.

6/ The WARC made additional allocations on a primary or secondary basis worldwide or in Region 2 in the following bands: 1492-1530 MHz; 1610-1626.5 MHz; 1675-1710 MHz; 1930-2010 MHz; 2120-2200 MHz; 2483.5-2520 MHz; and 2670-2690 MHz.

7/ See File Nos. 9-DSS-P-91(87), CSS-91-010, 11-DSS-P-91(6); Public Notice, Report No. DS-1068, DA 91-407 (April 1, 1991).

petition requesting that the Commission reallocate 10 MHz from the RDSS uplink band (1616.5-1626.5 MHz) to MSS and assign it to the U.S. MSS system, together with a matching 10 MHz downlink band (preferably 1515-1525 MHz).[8/] AMSC simultaneously submitted an application demonstrating how these frequencies will be integrated into its system.[9/]

Three other entities, Constellation Communications, Inc. ("Constellation"), Loral Qualcomm Satellite Services, Inc. ("Loral"), and TRW Inc. ("TRW"), filed applications for systems in the RDSS bands on June 3, 1991.[10/] Ellipsat also submitted an updated proposal.[11/] The systems proposed by Constellation, Ellipsat, Loral, MSCI and TRW are designed to provide mobile satellite service, but would feature satellites in non-geostationary orbit. Each of these applicants has filed petitions seeking changes in the Commission's rules that would accommodate their proposed systems.

AMSC has petitioned the Commission to deny the Constellation, Ellipsat, Loral, MSCI and TRW applications and has opposed their associated petitions for rulemaking. In these pleadings, AMSC has shown that there is not enough spectrum in the RDSS bands for even one of the non-geostationary systems being proposed to operate therein, let alone all of them. This

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8/ Petition of AMSC, RM-7806 (June 3, 1991).

9/ See File Nos. 15/16-DSS-MP-91 (June 3, 1991).

10/ See File Nos. 17-DSS-P-91(48), CSS-91-013, 19-DSS-P-91(48), CSS-91-014, 20-DSS-P-91(12), CSS-91-015.

11/ See File No. 18-DSS-P-91(18).

concern is due largely to sharing constraints with respect to other users of these bands. While the 1992 WARC allocated spectrum for MSS in the RDSS bands, these constraints remain.

For instance, systems operating in the RDSS uplink band must avoid interference to Radio Astronomy Service ("RAS") operations in the 1610.6-1613.8 MHz portion, as well as the Russian Glonass radionavigation system, which the Russian Federation at the 1992 WARC demonstrated requires protection up to 1620.6 MHz.[12/] In the RDSS downlink band, the power flux density levels that would be generated by the proposed non-geostationary systems would require the applicants to coordinate their systems' operation with fixed systems and other services using the band -- a process the success of which would be doubtful, given the severe interference these systems would cause. To make matters even worse, Inmarsat has submitted to the International Frequency Registration Board a proposal to operate its own non-geostationary and geostationary MSS systems in the RDSS bands. AMSC demonstrated that, to avoid causing harmful interference to other users of the RDSS bands, the proponents of these systems typically would have to reduce the systems' capacities to less than ten channels, a reduction so drastic as to make the cost of the systems' construction and operation clearly uneconomical.

AMSC has demonstrated that the public interest would be served best by allocating the available spectrum in the RDSS bands to MSS, and by permitting AMSC to integrate those frequencies into its system. While there is not enough RDSS

12/ See Document No. 389 at 25, Declaration 59.

spectrum available for any of the proposed non-geostationary system, even as little as the 4-6 MHz of RDSS spectrum that may be available is of substantial utility to AMSC in developing the U.S. MSS system. The RDSS uplink band is proximate to AMSC's already assigned frequencies, and is therefore uniquely suited for integration into AMSC's system. AMSC can put these frequencies to use promptly and at a cost of less than $10 million per satellite.

Discussion

The Commission established a date certain last June for interested applicants to submit proposals for satellite systems to operate in the RDSS bands. Six different entities have submitted such proposals, and those proposals have been analyzed extensively and discussed in numerous pleadings before the Commission. The proposals also have been the focus of the just-completed WARC. Under these circumstances, there should be a heavy burden placed on Celsat to demonstrate that its late-filed proposal to use the RDSS band is in the public interest. Celsat clearly has failed to overcome that burden.

Even aside from its lateness, Celsat's proposal is too speculative to warrant the allocation it requests. The most serious failing in its proposal is the absence of a showing that an HPCN system will be able to operate without causing or receiving harmful interference from existing users of the band. As the comments on the pending non-geostationary system applications have made clear, systems in the RDSS bands must

comply with interference prohibitions and coordination procedures designed to accommodate many other services, such as RAS, radionavigation, and fixed systems. In the absence of a more comprehensive and thorough showing, the presumption must be that a mobile communications system that would operate with hundreds of thousands of mobile units in fact would present an interference problem.

While Celsat claims that its proposal does not create the interference concerns raised by other RDSS-band applicants, its technical analysis reveals that to avoid interference to RAS facilities, Celsat proposes to divide the RDSS uplink band into subbands and not use the lower 3.75 MHz of the band when RAS facilities are operating. To avoid interference to Glonass, Celsat proposes to limit its operation in the RDSS uplink band to subbands above 1616 MHz (a limitation insufficient to protect Glonass, which the Russian Federation at the 1992 WARC indicated requires protection up through 1620.6 MHz). As AMSC has demonstrated in connection with the non-geostationary MSS proposals, these techniques would seriously limit Celsat's capacity.

Furthermore, Celsat has requested a substantial relaxation in the PFD limit for the RDSS downlink band, stating that its proposed system "suffers a substantial loss of capacity if it is required to conform to the current PFD limits." Celsat Petition at 34. A number of the non-geostationary applicants for the RDSS bands have requested similar relaxations, however, and as AMSC pointed out with respect to those applications, the 1992 WARC did

not resolve the PFD issue in a manner that would allow those systems to operate viably in the RDSS downlink band.

Conclusion

There is no basis for granting Celsat's request to allocate nearly the entire domestic RDSS spectrum to its proposed service. A number of far more specific proposals for use of the RDSS bands have been before the Commission for several months, in response to a June 1991 cut-off. These proposals have been discussed and analyzed exhaustively. In addition to being late-filed, Celsat's proposal fails to demonstrate that its system would be capable of operating in the requested frequencies without causing or receiving substantial harmful interference. Accordingly, AMSC urges the Commission to deny Celsat's petition for rulemaking.

Respectfully submitted,

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Dated: April 8, 1992

DECLARATION

I, Thomas M. Sullivan, do hereby declare as follows:

1. I have a Bachelor of Science degree in Electrical Engineering and have taken numerous post-graduate courses in Physics and Electrical Engineering.

2. I am presently employed by Atlantic Research Corporation and was formerly employed by the IIT Research Institute, DoD Electromagnetic Compatibility Analysis Center.

3. I am qualified to evaluate the technical information in AMSC Subsidiary Corporation's Opposition to Petition for Rulemaking. I am familiar with Part 25 and other relevant parts of the Commission's Rules and Regulations.

4. I received, in 1982, an official commendation from the Department of the Army for the establishment of international provisions for the worldwide operation of mobile earth stations.

5. I served as Technical Advisor to the U.S. Delegation to WARC-92 and participated in sessions of WARC-92 addressing frequency sharing and other aspects of MSS.

6. I have been involved in the preparation of and have reviewed AMSC Subsidiary Corporation's Opposition to Petition for Rulemaking. The technical facts contained therein are accurate to the best of my knowledge and belief.

Under penalty of perjury, the foregoing is true and correct.

April 8, 1992
Date

Thomas M. Sullivan
Thomas M. Sullivan

CERTIFICATE OF SERVICE

I, Valerie A. Mack, hereby certify that a true and correct copy of the foregoing "OPPOSITION TO PETITION FOR RULEMAKING," has been sent by prepaid United States mail, first class, on this 8th day of April, 1992, to the following:

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